

IN THE CLAIMS

Please amend claims 1-13, and add claims 14-15 as follows:

1 1. (Currently Amended) A radio communication system having a
2 communication channel comprising a plurality of paths between first
3 and second terminals each having a plurality of antennas, wherein
4 the first terminal comprises receiving means having direction
5 determining means for determining a plurality of directions from
6 which signals arrive from the second terminal, means for receiving
7 a plurality of respective signals from some or all of the plurality
8 of directions, means for extracting a plurality of sub-streams from
9 the received signals and means for combining the plurality of sub-
10 streams to provide an output data stream, and the first terminal
11 further comprises transmitting means having means for separating a
12 signal for transmission into a plurality of sub-streams, and
13 transmitting means for transmitting each sub-stream into a
14 respective one of the plurality of directions determined by the
15 receiving means, wherein the transmitting means includes control
16 means for operating the plurality of antennas as an array and
17 operable to adapt the antenna pattern for each sub-stream such that

18 a peak in the antenna pattern corresponds to the respective
19 direction.

1 2. (Currently Amended) A system as claimed in claim 1,
2 ~~characterised in that~~ wherein the receiving means further comprises
3 means for determining an angular power distribution of incoming
4 signals.

1 3. (Currently Amended) A system as claimed in claim 2,
2 ~~characterised in that~~ wherein the direction determining means
3 further comprises means for selecting ~~as~~ from the plurality of
4 directions those directions from which the strongest signals arrive
5 from the second terminal.

1 4. (Currently Amended) A terminal for use in a radio
2 communication system having a communication channel comprising a
3 plurality of paths between the terminal and another terminal,
4 wherein receiving means are provided having direction determining
5 means for determining a plurality of directions from which signals
6 arrive from the other terminal, and transmitting means are provided

7 having means for separating a signal for transmission into a
8 plurality of sub-streams, and transmitting means for transmitting
9 each sub-stream into a respective one of the plurality of
10 directions determined by the receiving means, wherein the
11 transmitting means includes control means for operating a plurality
12 of antennas as an array and operable to adapt the antenna pattern
13 for each sub-stream such that a peak in the antenna pattern
14 corresponds to the respective direction.

1 5. (Currently Amended) A terminal as claimed in claim 4,
2 ~~characterised in that~~ wherein the receiving means further comprises
3 means for receiving a plurality of respective signals from some or
4 all of the plurality of directions, means for extracting a
5 plurality of sub-streams from the received signals and means for
6 combining the plurality of sub-streams to provide an output data
7 stream.

1 6. (Currently Amended) A terminal as claimed in claim 5,
2 ~~characterised in that~~ wherein the numbers of transmitted and
3 received sub-streams are not equal.

1 7. (Currently Amended) A terminal as claimed in claim 4,
2 ~~characterised in that~~ wherein the receiving means further comprises
3 means for determining an angular power distribution of incoming
4 signals.

1 8. (Currently Amended) A terminal as claimed in claim 7,
2 ~~characterised in that~~ wherein the direction determining means
3 further comprises means for selecting ~~as~~ from the plurality of
4 directions those directions from which the strongest signals arrive
5 from the second terminal.

1 9. (Currently Amended) A terminal as claimed in claim 4,
2 ~~characterised in that~~ wherein the transmitting means includes
3 control means ~~for operating the plurality of antennas as an array~~
4 ~~and operable to~~ further adapt the antenna pattern for each sub-
5 stream such that ~~a peak in the antenna pattern corresponds to the~~
6 ~~respective direction and~~ nulls in the antenna pattern correspond to
7 the directions in which other sub-streams are transmitted.

1 10. (Currently Amended) A terminal ~~as claimed in claim 4,~~
2 ~~characterised in that~~ for use in a radio communication system
3 having a communication channel comprising a plurality of paths
4 between the terminal and another terminal, wherein receiving means
5 are provided having direction determining means for determining a
6 plurality of directions from which signals arrive from the other
7 terminal, and transmitting means are provided having means for
8 separating a signal for transmission into a plurality of sub-
9 streams, and transmitting means for transmitting each sub-stream
10 into a respective one of the plurality of directions determined by
11 the receiving means, wherein the transmitting means includes
12 control means for independently adjusting the power and/or bitrate
13 of each sub-stream depending on a signal quality parameter of the
14 sub-stream.

1 11. (Currently Amended) A terminal for use in a radio
2 communication system having a communication channel comprising a
3 plurality of paths between the terminal and another terminal,
4 wherein receiving means are provided having direction determining
5 means for determining a plurality of directions from which signals

6 arrive from the other terminal, means for receiving a plurality of
7 respective signals from some or all of the plurality of directions,
8 means for extracting a plurality of sub-streams from the received
9 signals and means for combining the plurality of sub-streams to
10 provide an output data stream, and transmitting means with control
11 means for operating a plurality of antennas as an array and
12 operable to adapt the antenna pattern for each sub-stream such that
13 a peak in the antenna pattern corresponds to the respective
14 direction.

1 12.(Currently Amended) A method of operating a radio
2 communication system having a communication channel comprising a
3 plurality of paths between first and second terminals each having a
4 plurality of antennas, the method comprising the first terminal
5 determining a plurality of directions from which signals arrive
6 from the second terminal, receiving signals from some or all of the
7 plurality of directions, extracting a plurality of sub-streams from
8 the received signals and combining the plurality of sub-streams to
9 provide an output data stream, the method further comprising the
10 first terminal separating a signal for transmission into a
11 plurality of sub-streams, ~~and~~ transmitting each sub-stream into a

12 respective one of the plurality of determined directions, and
13 operating the plurality of antennas as an array to adapt the
14 antenna pattern for each sub-stream such that a peak in the antenna
15 pattern corresponds to the respective direction.

1 13. (Currently Amended) A method ~~as claimed in claim 12,~~
2 characterised by of operating a radio communication system having a
3 communication channel comprising a plurality of paths between first
4 and second terminals each having a plurality of antennas, the
5 method comprising the first terminal:
6 determining a plurality of directions from which signals
7 arrive from the second terminal,
8 receiving signals from some or all of the plurality of
9 directions,
10 extracting a plurality of sub-streams from the received
11 signals,
12 combining the plurality of sub-streams to provide an output
13 data stream,
14 separating a signal for transmission into a plurality of sub-
15 streams,

16 transmitting each sub-stream into a respective one of the
17 plurality of determined directions, and
18 independently adjusting the power and/or bitrate of each
19 transmitted sub-stream depending on a signal quality parameter of
20 the sub-stream.

1 14.(New) A radio communication system having a communication
2 channel comprising a plurality of paths between first and second
3 terminals each having a plurality of antennas, wherein the first
4 terminal comprises receiving means having direction determining
5 means for determining a plurality of directions from which signals
6 arrive from the second terminal, means for receiving a plurality of
7 respective signals from some or all of the plurality of directions,
8 means for extracting a plurality of sub-streams from the received
9 signals and means for combining the plurality of sub-streams to
10 provide an output data stream, and the first terminal further
11 comprises transmitting means having means for separating a signal
12 for transmission into a plurality of sub-streams, and transmitting
13 means for transmitting each sub-stream into a respective one of the
14 plurality of directions determined by the receiving means, wherein

15 the transmitting means includes control means for independently
16 adjusting the power and/or bitrate of each sub-stream depending on
17 a signal quality parameter of the sub-stream.

1 15.(New) A terminal for use in a radio communication system
2 having a communication channel comprising a plurality of paths
3 between the terminal and another terminal, wherein receiving means
4 are provided having direction determining means for determining a
5 plurality of directions from which signals arrive from the other
6 terminal, means for receiving a plurality of respective signals
7 from some or all of the plurality of directions, means for
8 extracting a plurality of sub-streams from the received signals and
9 means for combining the plurality of sub-streams to provide an
10 output data stream, and transmitting means which includes control
11 means for independently adjusting the power and/or bitrate of each
12 sub-stream depending on a signal quality parameter of the sub-
13 stream.